

Public Information Meeting

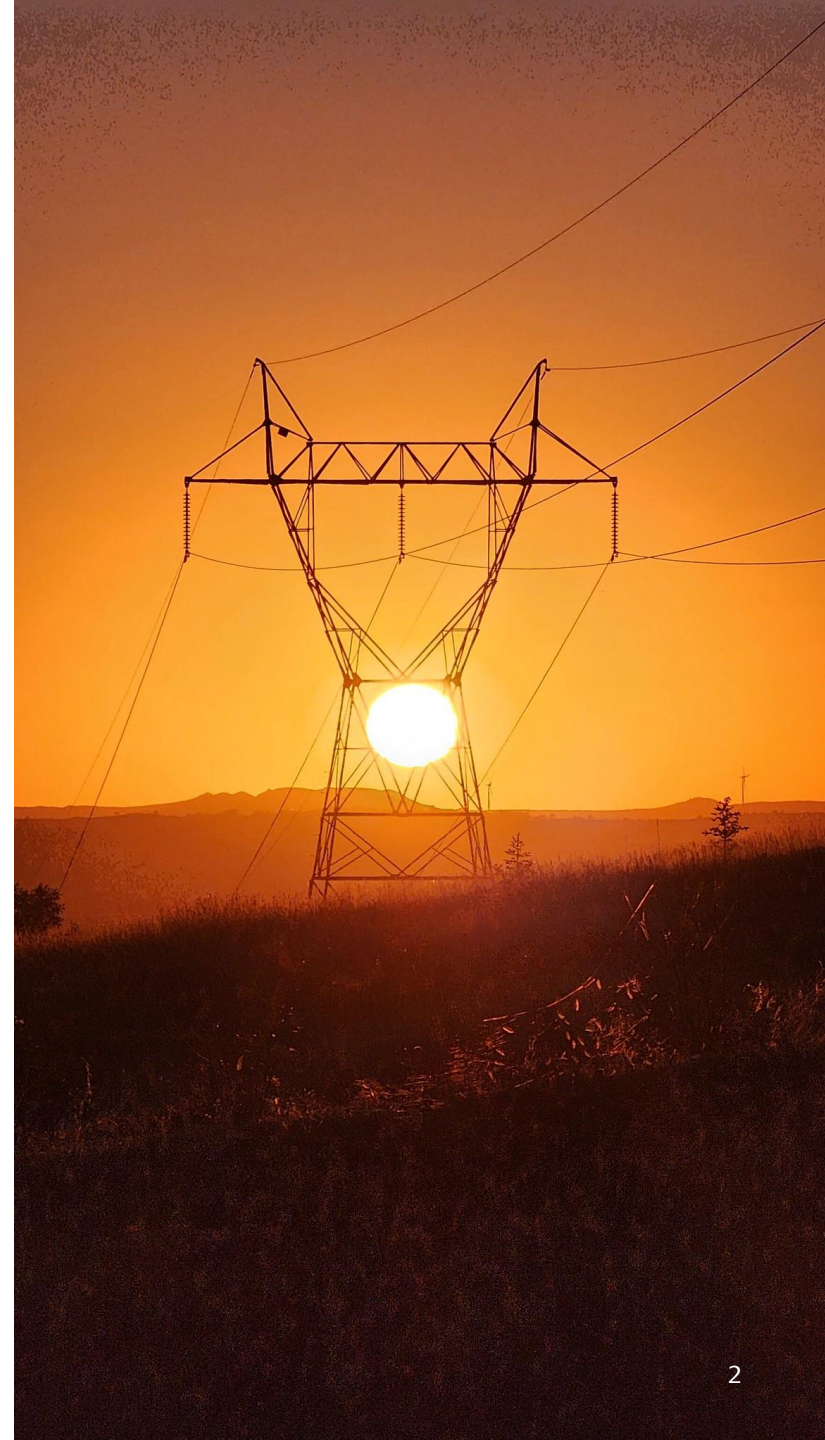
Recommendation to Pursue Final Negotiations Regarding
Southwest Power Pool (SPP)
Regional Transmission Organization (RTO) Membership

May 3, 2023



Claire Douthit
Attorney/Advisor

Moderator



Housekeeping items

- The purpose of this Public Information Meeting is to explain the Recommendation and public process, and provide an opportunity for questions and answers.
- All participants were muted on entry and will be throughout the presentation. At the end of the presentation, we'll explain the process for the Q&A session.
- Please hold verbal questions until the end of the presentation. However, you are welcome to type questions in the chat at any time during the meeting, and they will go to our facilitator. We will address them at the end during the Q&A session.
 - Please note your name, who you represent, and the slide number (if applicable) in your question.
- This webinar is being recorded. If you do not want your image or voice recorded, you are welcome to submit questions in the chat rather than having your camera on and speaking.
 - A video recording of this webinar will be posted on approximately May 15.
 - A court reporter also is transcribing this webinar.



Public comment period and process

- Public comment period
 - Started April 28, 2023
 - Ends June 12, 2023
- Submitting comments
 - Please submit comments in writing by June 12, 2023. Email and postal addresses are included in the FRN.
 - If you made comments prior to the start of the comment period, you must resubmit them in writing during the comment period for consideration.
 - Comments will not be accepted after the close of the comment period.
- Materials
 - All materials associated with this Recommendation including presentations, recordings, and supporting documents are or will be available via <https://www.wapa.gov/About/keytopics/Pages/southwest-power-pool-membership.aspx>
 - WAPA will disclose other communications that occur during the comment period regarding the RTO initiative by posting them on the website listed above. Additionally, WAPA personnel will continue to participate in public industry activities and discussions regarding markets.



Second Q&A webinar

- In addition to today's Q&A session, WAPA will hold a second Q&A webinar on May 25.
 - Entities that are not able to attend either session but have clarifying questions may submit them to SPP-Comments@wapa.gov by no later than May 23.
 - Any remaining questions (not comments) received by May 23 will be addressed during the May 25 webinar, and a recording of the webinar will be posted approximately two business days after the event.
- The webinars are not comment sessions. To be considered, all comments must be provided in writing during the comment period, which is April 28 to June 12.



Responses to comments, decision letter

- All written comments received by June 12 and responses to those comments will be posted on WAPA's website after the end of comment period.
- Following consideration of the comments, WAPA's Administrator will issue a decision that will be posted on WAPA's website.



Opening remarks

- Rodney Bailey

Senior Vice President and Colorado River Storage Project Manager

- Bart Barnhart

Senior Vice President and Rocky Mountain Regional Manager

- Lloyd Linke

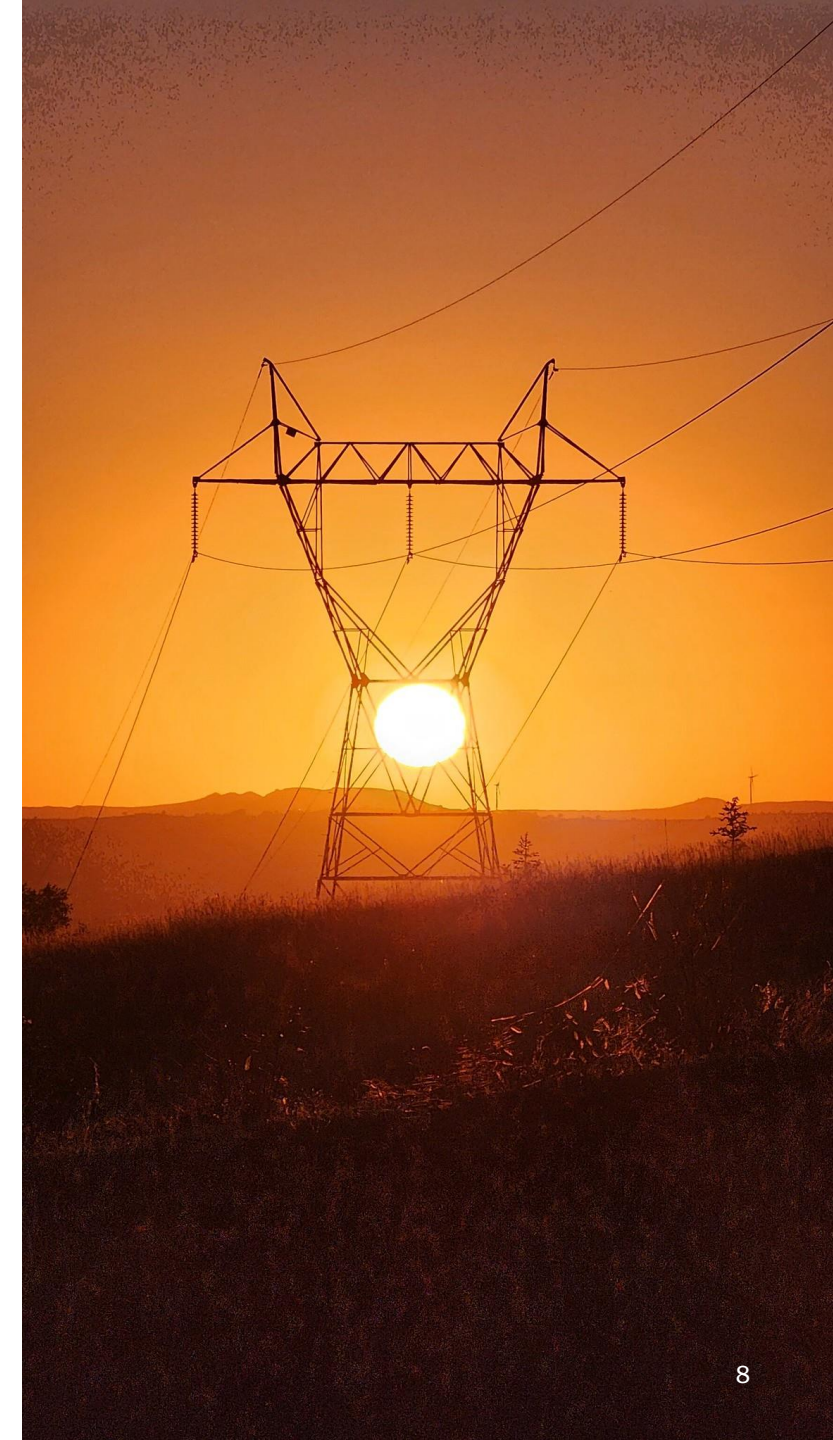
Senior Vice President and Upper Great Plains Regional Manager



Chrystal Dean

Vice President, Enterprise Portfolio
Management

Presenter



Recommendation

"Recommendation for the Western Area Power Administration's Rocky Mountain (RM) Region and Colorado River Storage Project Management Center (CRSP) to Pursue Final Negotiations Regarding Membership in the Southwest Power Pool (SPP) Regional Transmission Organization (RTO), and for the Upper Great Plains (UGP) Region to Expand its Participation."

Presentations along with the associated *Federal Register* notice (FRN), Recommendation Report, and supporting materials are posted on WAPA's website at:
<https://www.wapa.gov/About/keytopics/Pages/southwest-power-pool-membership.aspx>



WAPA published a *Federal Register* notice on April 28, 2023, regarding SPP RTO membership. WAPA seeks public comment from its customers and stakeholders on the substance of WAPA's recommendation to pursue final negotiations regarding RM's and CRSP's membership in the SPP RTO, and UGP's expanded participation. A decision about whether to pursue the recommendation will be informed by comments received and will be posted to WAPA's website.



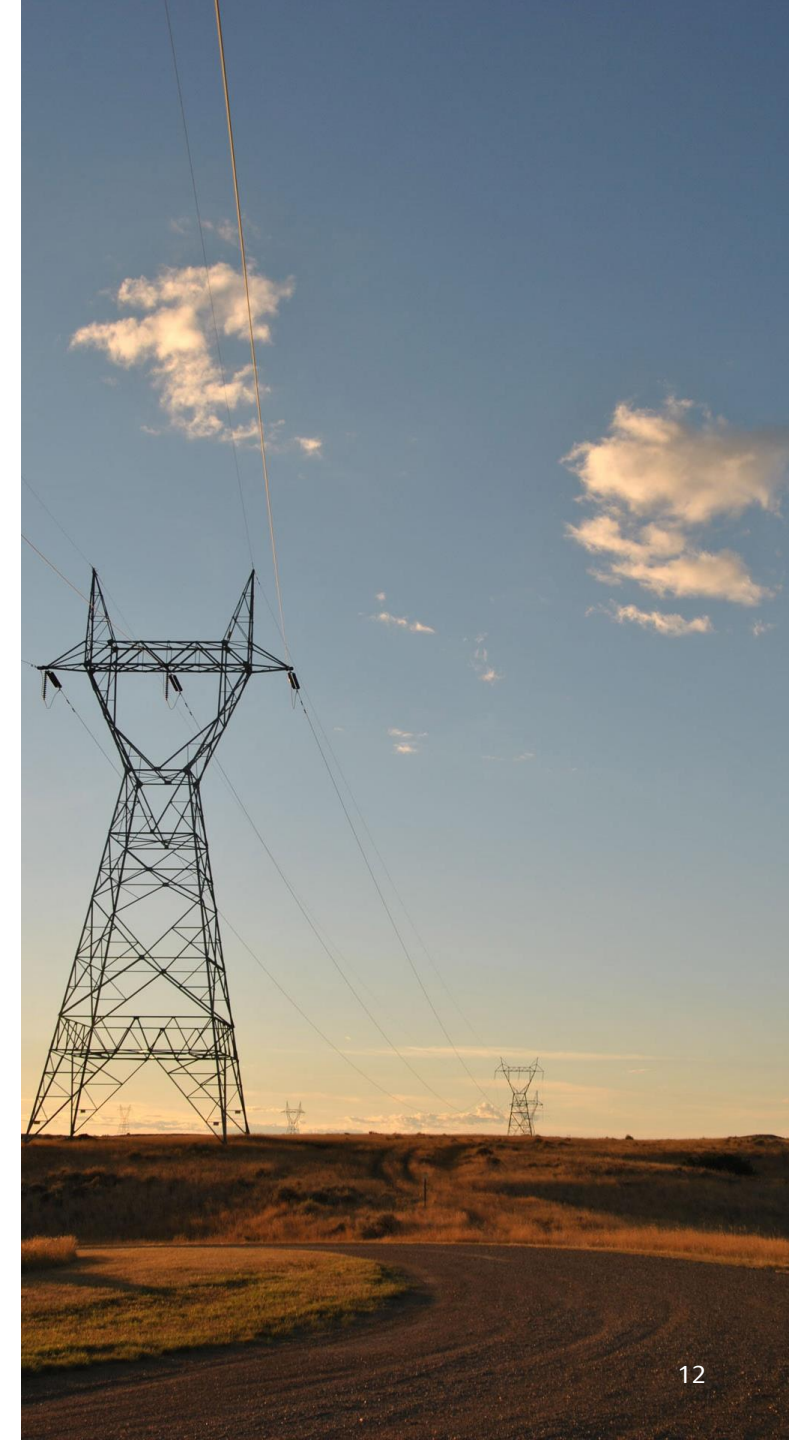
Agenda

- Public Comment Period and Process
- Regional Manager Opening Remarks
- Recommendation
- WAPA Background
- WAPA's Mission, Value Statement, and Market Strategy
- Power Marketing Areas for CRSP, RM, and UGP
- What's Changing in the West?
- SPP Exploring RTO Expansion in the West
- RTO Compared to Energy Imbalance and Proposed Day Ahead Market Options
- Key Features of RTOs
- State Clean Energy Policies
- Regional Market Studies
- Why SPP RTO?
- Brattle 2022 Adjusted Production Cost Study
- History of WAPA and SPP
- SPP RTO-West Market Design, Terms, and Conditions
- SPP RTO Considerations and Implications for CRSP, RM, and UGP
- Conclusion and Recommendation
- Preliminary RTO-West Implementation Timeline
- Submitting Formal Comments
- Questions and Answers



WAPA background

- WAPA markets reliable, cost-based electric power from 57 hydropower plants with installed capacity of 10,576 megawatts.
- Buys and sells power to provide firm electric service.
- Serves nearly 700 customers, cities and towns, rural electric cooperatives, irrigation districts, public power districts, federal and state agencies, and Native American Tribes.
- Five power marketing areas, three balancing authorities, 17,000+ miles of transmission lines, 15-state operating footprint.



WAPA's mission, value statement, and market strategy

Our Mission

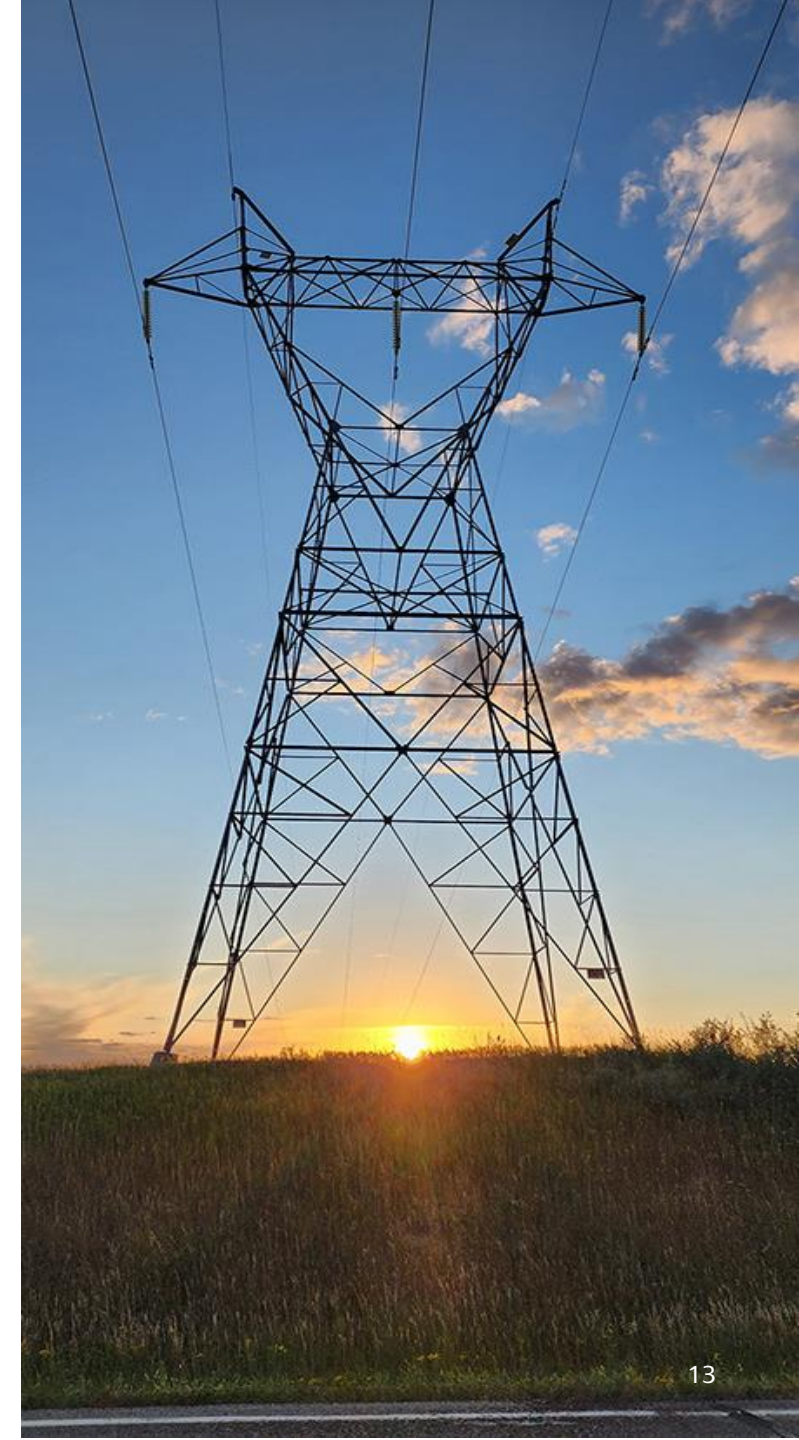
Safely provide reliable, cost-based hydropower and transmission to our customers and the communities we serve.

Value Statement

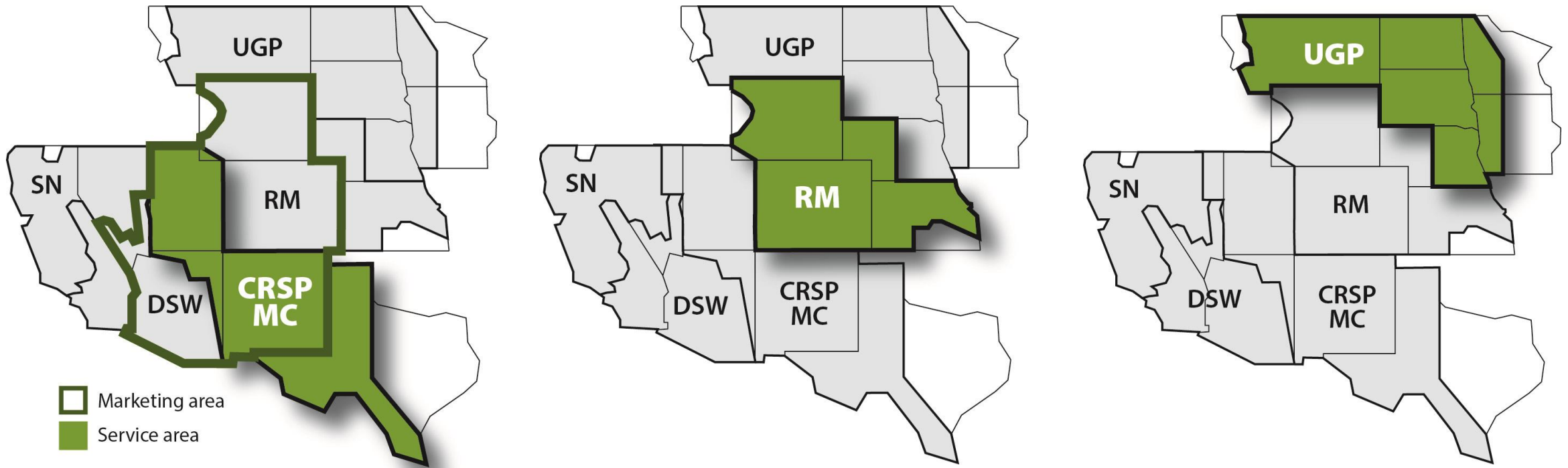
Ensure WAPA's ability to meet our mission, serve our customers and operate in a changing environment.

Market Strategy

- Protect and reinforce the importance of federal hydropower and WAPA's transmission system.
- Maintain and ensure reliability.
- Determine and manage outcomes that support WAPA's mission.
- Ensure market participation creates value for WAPA's customers.
- Balance lowest possible cost with sound business principles.
- Accommodate resource diversity for WAPA's customers.
- One size does not fit all.



Power marketing areas for CRSP, RM, and UGP



A service area identifies a region's geographic territory while a marketing area defines the boundaries of a region's customer base.



What's changing in the West?

- Coal is being replaced as a primary generating fuel with natural gas, wind, and solar.
- Drought and increased risk from extreme weather events.
- State-driven environmental policies.
- Increase in wind and solar installations.
- Natural gas price fluctuations.
- Fewer dispatchable capacity resources for balancing authority operations.



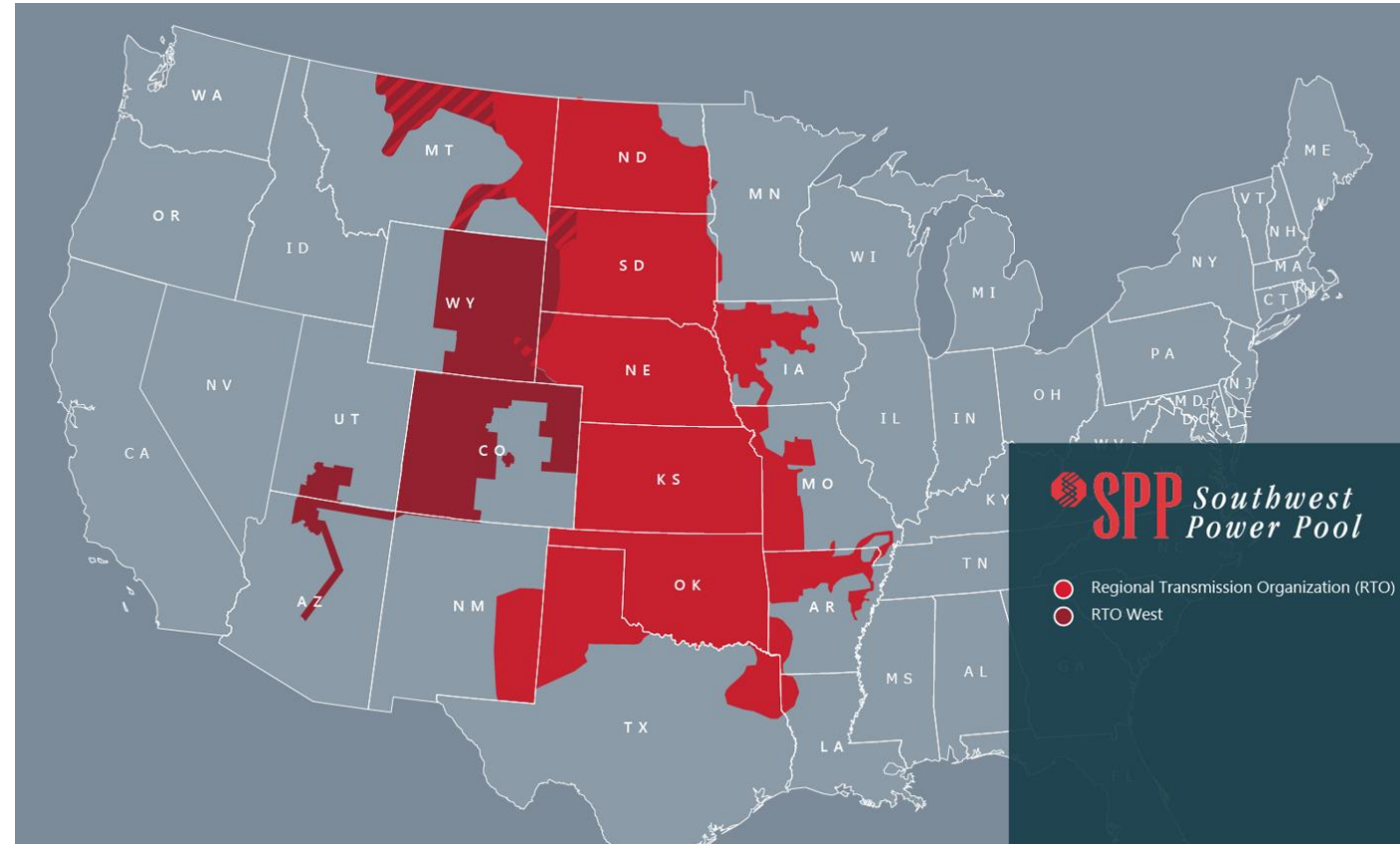
"If you don't like change, you're going to like irrelevance even less."

General Erick Shinseki, Former Secretary of Veterans Affairs



SPP exploring RTO expansion in the Western Interconnection

- Southwest Power Pool (SPP) is a Regional Transmission Organization (RTO) in the central U.S.
- SPP is exploring expanding its RTO in the Western Interconnection in an initiative called SPP RTO-West.
- Entities considering membership or expansion of membership include:
 - Basin Electric Power Cooperative
 - Colorado Springs Utilities
 - Deseret Power
 - Municipal Energy Agency of Nebraska
 - Platte River Power Authority
 - Tri-State Generation and Transmission Association
 - WAPA:
 - CRSP (new member)
 - RM (new member)
 - UGP (expand participation in the Western Interconnection)



RTO compared to energy imbalance and proposed day-ahead market options

EIM/Real-Time Market

- ✓ Centrally optimized real-time dispatch – Day-ahead unit commitment not optimized across market participants
- ✓ Individual transmission tariffs
- ✓ Limited transmission dedicated to market
- ✓ Balancing Authority Area (BAA) boundaries and associated reliability obligations retained
- ✓ Transmission providers retain operational control of transmission

Day-Ahead Market

- ✓ Centrally optimized real-time and day-ahead energy market
- ✓ Individual transmission tariffs
- ✓ Limited transmission dedicated to market (other transactions must explicitly pay for transmission)
- ✓ BAA boundaries and associated reliability obligations retained
- ✓ Transmission providers retain operational control of transmission

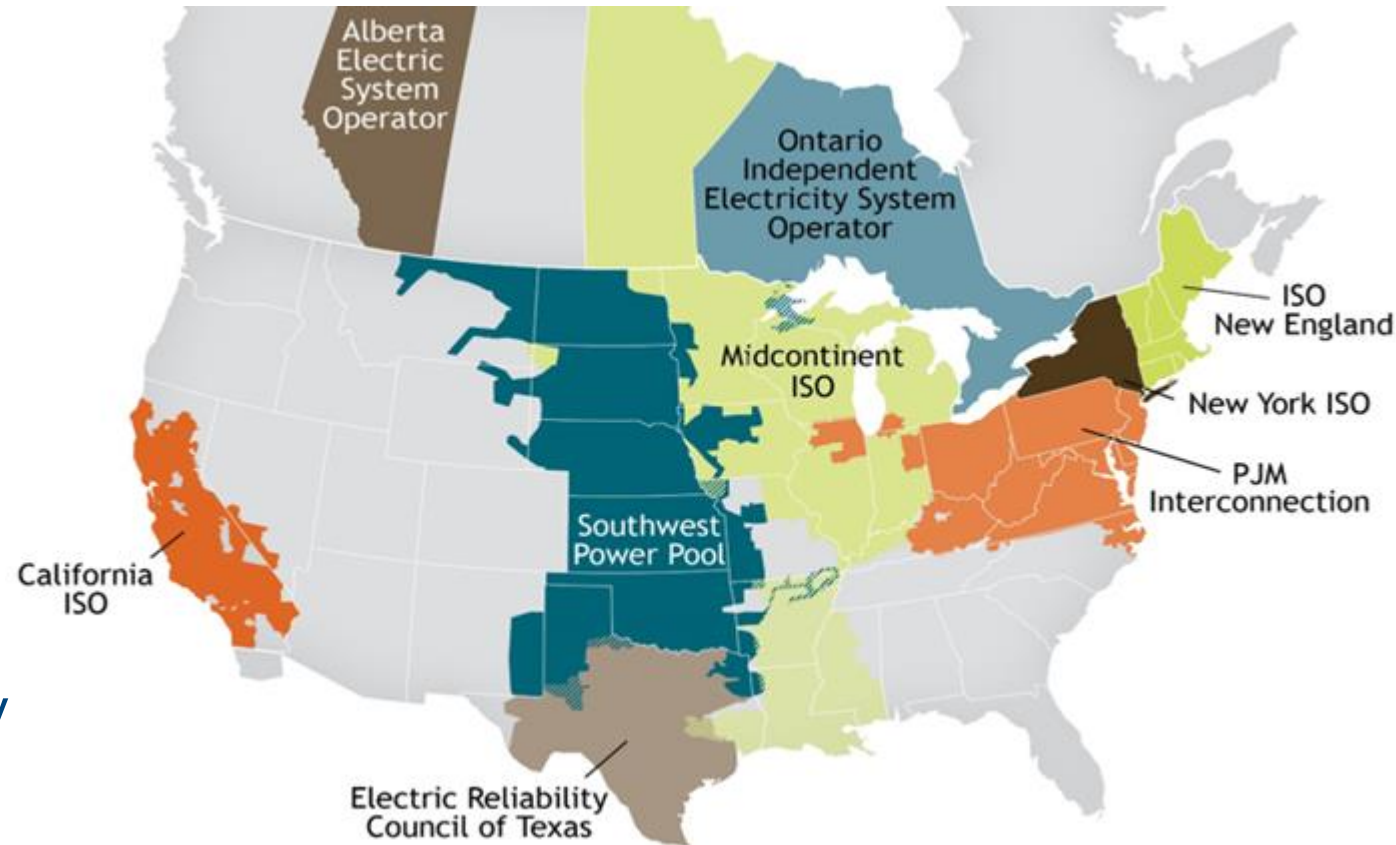
RTO

- ✓ Centrally optimized real-time and day-ahead energy market
- ✓ Joint transmission tariff for participants in a given footprint
- ✓ Transmission used up to reliability limit
- ✓ BAA boundaries and reliability obligations consolidated
- ✓ Joint transmission planning and cost allocation
- ✓ Transmission providers transfer of operational control of transmission



Key features of RTOs

- Large operating footprints
- Centralized and coordinated transmission planning
- Centralized markets are widely acknowledged to provide reliability and economic benefits
- Single transmission tariff
- Centralized dispatch
- Consolidation of balancing authority areas
- Resource adequacy



State clean energy policies

- Many states require utilities to comply with renewable and clean energy policies.
- State clean energy policies continue to become more stringent.
- WAPA's customers are likely to need to access renewable generation outside their service territories.
- Bilateral markets may result in high transmission wheeling charges and overall inefficiencies.



Regional market studies

Department of Energy Funded State-Led Market Study

- Study found benefits of up to \$2 billion a year for a single RTO across the West and benefits of \$1.4 to \$1.8 billion per year for two RTOs in the West.

Colorado Investigation of Market Alternatives

- RTO could provide approximately \$230 million in benefits annually.

NREL – Impacts of Expanded Regional Cooperation

- *“An RTO, because it is a more comprehensive structure for cooperation that optimizes a wider array of grid functions, tends to yield greater cost savings and grid flexibility than more limited forms of cooperation.”*



Brattle 2022 adjusted production cost study

- This table compares the potential benefits of membership in the SPP Western Energy Imbalance Service (WEIS) with the proposed SPP RTO under various scenarios for the Western Interconnection (West-side), Eastern Interconnection (East-side), and combined footprints.
- These results are aggregate for all participants in the RTO expansion initiative.
- CRSP, RM, and UGP will go into detail on results for their footprints in the individual region sections.

Benefit Metric	Westside		Eastside		Combined	
	Base WEIS vs. Base RTO	Low Hydro WEIS vs. Low Hydro RTO	Base WEIS vs. Base RTO	Low Hydro WEIS vs. Low Hydro RTO	Base WEIS vs. Base RTO	Low Hydro WEIS vs. Low Hydro RTO
APC Benefit	\$68	\$81	\$3	\$8	\$71	\$89
Wheeling Benefit	-\$15	-\$16	\$0	\$0	-\$15	-\$16
Net APC & Wheeling	\$53	\$65	\$3	\$8	\$56	\$73



Why SPP RTO?

- The existing multi-state SPP RTO has advanced operational tools, consolidated BA footprints, coordinated resource adequacy, increased operational flexibility, and greater access to diverse generation resources.
- The SPP RTO provides advanced mechanisms for regional transmission planning, transmission development, and cost allocation along with consolidated transmission tariffs that reduce transmission rate pancaking.
- Existing energy imbalance and proposed day-ahead markets in the West cannot provide the benefits a multi-state RTO can.
- The only RTO currently operating in the West is the California Independent System Operator (CAISO), which is constrained by its governance structures.
- Multiple attempts to develop an RTO in the West from the ground up over the past 20 years have been unsuccessful. Joining an existing and fully functioning multi-state RTO is expected to be feasible within an acceptable time horizon.



History of WAPA and SPP

WAPA listened as customers spoke, and together we have engaged with SPP for over a decade on a range of market and operational strategies to address emerging system dynamics.

- October 2015, UGP joined the SPP RTO in the Eastern Interconnection and put its Western Interconnection facilities under the SPP tariff.
- RM and CRSP engaged in discussions from 2013 to 2018 with seven other neighboring electricity providers in the Mountain West Transmission Group initiative.
- SPP's Western Reliability Coordinator service began in December 2019 and now includes 13 transmission operators and nine Balancing Authorities (BAs) in the Western Interconnection.
- SPP began as the Western Interconnection Unscheduled Flow Mitigation Program (WIUFMP) coordinator in December 2019.
- In 2020, SPP began developing the Western Power Pool (WPP) Western Resource Adequacy Program (WRAP). WRAP has 26 participants across ten states and one Canadian province, with others also considering participation.
- WAPA's Western Area Colorado Missouri (WACM) and Western Area Upper Great Plains West (WAUW) BAs joined the SPP Western Energy Imbalance Service (WEIS) in February 2021. SPP WEIS provided an opportunity for participants to incrementally move toward full SPP RTO membership.



SPP RTO-West market design, terms, and conditions: Federal Service Exemption (FSE)

- WAPA's mission of delivering cost-based federal hydropower, with little to no responsibility for load growth, requires accommodation for WAPA.
- UGP negotiated special provisions when it joined SPP in 2015.
- RM and CRSP have also negotiated FSE provisions.
- The FSE provides protection from certain market charges to help preserve the value of WAPA's Firm Electric Service (FES) deliveries:
 - WAPA's FES deliveries not charged for congestion, marginal losses, or certain regional capital costs.
 - Exemption applies from the WAPA resource to the federal transfer point, over WAPA transmission.
 - Would provide the same FES deliveries customers enjoy today.



SPP RTO-West market design, terms, and conditions

- Single Order 1000 planning process, coordinated with local planning.
- FERC waiver request for West-side interconnection queue processing if East-side queue backlog exists upon go-live.
- Zonal rate design where generally each transmission owner would have a zone. Some zones (RM's and UGP's) would span East to West.
- Point-to-Point drive-out revenue assigned to interconnection-exit side (East or West).
- Point-to-Point drive-out rate in the West would be West zone average instead of exit zone rate.
- There would be separate East and West Schedule 11 regional transmission rates (costs stay on each side).



SPP RTO-West market design, terms, and conditions

- Transmission facilities defined at 100kV+ rather than 60kV+.
- Single SPP Integrated Marketplace across East-West, optimized across the DC-ties, with single market solution footprint wide.
- New SPP-West Balancing Authority Area (BAA). The WACM and WAUW BAAs would merge into the single SPP-West BAA.
- SPP-West BA would join the WPP Reserve Sharing Group.
- Minor governance changes.
- SPP organization group selections would consider East-West diversity.
- Strategic Planning Committee would expand by two seats: One for a West-side Transmission Owner and one for a West-side Transmission User.



DC-Tie terms and conditions

- Incremental Market Efficiency Use (MEU) that provides revenue via a market uplift to the DC-tie owners to offset incremental DC-tie operational costs due to market dispatch of the DC-ties.
- DC-tie access charge for transmission reservations that utilize a DC-tie and sink beyond the DC-tie owner's zone.
- DC-tie congestion settlement provisions.



Virginia Smith HVDC Converter Station in Sidney, NE



SPP RTO considerations and implications

- Colorado River Storage Project Management Center (CRSP)
- Rocky Mountain (RM) region
- Upper Great Plains (UGP) region



Colorado River Storage Project Management Center (CRSP)

Brent Osiek
Program and Regulatory Advisor



CRSP negotiated terms and conditions

- One size does not fit all.
- To accommodate the unique nature of CRSP operations, SPP's Board of Directors agreed to allow special terms and conditions for CRSP.
- CRSP's requests for the SPP RTO-West terms and conditions:
 - WAPA-CRSP Point-to-Point Transmission Service
 - FSE for WAPA-CRSP Replacement Energy Provision



CRSP-specific terms and conditions

- Point-to-Point transmission service revenue from CRSP reservations using CRSP facilities within the CRSP transmission pricing zone associated with the fulfillment of the CRSP contractual and statutory load obligations would be distributed solely to CRSP.
- “Federal-Power-CRSP” defined to also include replacement energy acquired by CRSP, solely for the purpose of satisfying CRSP’s statutory load obligations, as necessitated by CRSP’s inability to deliver sufficient energy from federal resources for reasons such as persistent drought or environmental constraints.



Glen Canyon Dam



CRSP current and future state for FES

Current state

- CRSP is in the WACM BA.
- CRSP Energy Management and Marketing Office (EMMO) markets, schedules, and bids CRSP resources (and make purchases and sales) to meet customer schedules.
- CRSP resources are registered as Non-Dispatchable in SPP WEIS. Only 40 megawatts (MW) of CRSP generation is used for regulation for WACM.
- Reserves CRSP transmission to make FES deliveries. Buys from itself.

Future state

- No noticeable difference from the service provided today.
- SPP will be the BA rather than WACM.
- CRSP EMMO will still market, schedule, and offer CRSP resources (and make purchases or sales) to meet customer schedules.
- CRSP resources will be registered as non-dispatchable in SPP RTO.
- Continue to reserve CRSP transmission from ourselves to make FES deliveries but through SPP.



CRSP risks

Transmission Rate Stability	CRSP's current transmission system was built based on CRSP's unique delivery purposes. This remains a low risk in an RTO only if SPP accepts CRSP's negotiated terms and conditions. Without it, the costs to CRSP firm electric service customers begin to rise with continued expansion due to no load to charge Annual Transmission Revenue Requirement (ATRR) against.
CRSP Capacity Products	To implement the Grand Canyon Protection Act of 1992, CRSP created the Customer Displacement Power (CDP) and Western Replacement Power (WRP) capacity programs, which customers highly value. In the SPP RTO, this product is not available to CRSP customers within the market footprint during the real time trading horizon. It remains available to customers outside the RTO footprint.
Initial Costs to Join	While there are costs to remaining status quo due to increased bilateral pressure, there are also costs to join the RTO. Costs are associated with software, administrative fees and staff support.
Transmission Congestion Rights (TCRs)	CRSP has a highly congested transmission system with key delivery paths in the West. CRSP can participate in the TCR market, which can provide offsetting revenues to the power rate, thus benefiting CRSP firm electric service customers. There will be a learning curve for staff before participating in these congestion rights market.



Costs and benefits - CRSP results

Cost or Benefit Catogories	Cost or Benefit to CRSP	Quality of Estimate
Transmission Cost shift	\$0	Good
Wheeling Revenue	\$ 1,497,000	Fair
Market Benefits (Normal hydro = \$507K) (Low Hydro = \$3.3M)	\$ 507,000	Fair
Additional Admin Fee for RTO	\$ 1,825,000	Good
Loss of SSCD Revenue	\$ 499,809	Very good
Loss of El Admin Fee Revenue	\$ 508,400	Very good
Loss of NWPP Admin Fee	\$ 72,655	Very good
CRSP - New Software Annual Maintenance (initial purchase price is ~\$1M for CRSP)	\$ 7,000	Very good
Retirement of Exiting Software Annual Maintenance Costs for EMMO	\$ 191,178	Very good
Sum = \$ could range from -\$700K to \$2.2M		

The market benefits are the Brattle Study's adjusted production cost summary results further explained below. The sum includes the production cost model benefits of up to \$3.3M during low hydro condition and \$507K for normal hydro.

The summary of benefits after accounting for costs range from slightly negative to slightly positive for different hydrological conditions.



Updated Brattle Study analysis results – CRSP has overall positive benefit, but small

Adjusted Production Cost Comparison for CRSP

Cost Components	GWh			\$/MWh			Total (\$1000s/Year)		
	WEIS Case	RTO Case	Difference	WEIS Case	RTO Case	Difference	WEIS Case	RTO Case	Difference
Production	5,015	5,015	0	\$2.01	\$2.01	\$0.00	10,081	10,081	\$0
Purchases									
Bilateral Market/Day-Ahead Market	947	947	0	\$40.65	\$39.79	-\$0.85	38,484	37,679	-\$805
Real-Time Market	0	0	0	\$0.00	\$0.00	\$0.00	0	0	\$0
Sales									
Bilateral Market/Day-Ahead Market	319	319	0	\$34.07	\$33.14	-\$0.93	10,885	10,587	-\$298
Real-Time Market	0	0	0	\$0.00	\$0.00	\$0.00	0	0	\$0
Total	5,643	5,643	0	\$6.68	\$6.59	-\$0.09	37,680	37,173	-\$507
% Change in APC									-1.3%

Adjusted Production Cost Comparison for CRSP **Low Hydro**

Cost Components	GWh			\$/MWh			Total (\$1000s/Year)		
	WEIS Case	RTO Case	Difference	WEIS Case	RTO Case	Difference	WEIS Case	RTO Case	Difference
Production	1,064	1,065	1	\$2.01	\$2.01	\$0.00	2,138	2,140	\$2
Purchases									
Bilateral Market/Day-Ahead Market	4,579	4,578	-1	\$37.44	\$36.73	-\$0.71	171,461	168,159	-\$3,302
Real-Time Market	0	0	0	\$0.00	\$0.00	\$0.00	0	0	\$0
Sales									
Bilateral Market/Day-Ahead Market	0	0	0	\$0.00	\$0.00	\$0.00	0	0	\$0
Real-Time Market	0	0	0	\$0.00	\$0.00	\$0.00	0	0	\$0
Total	5,643	5,643	0	\$30.76	\$30.18	-\$0.58	173,599	170,299	-\$3,300
% Change in APC									-1.9%

Base Case

CRSP	Total (\$1000s)
Total Wheeling Revenue WEIS Case	\$267
Total Wheeling Revenue Share RTO Case	\$1,764
Change in Wheeling Revenue	\$1,497

Low Hydro Sensitivity

CRSP	Total (\$1000s)
Total Wheeling Revenue WEIS Case	\$231
Total Wheeling Revenue Share RTO Case	\$1,613
Change in Wheeling Revenue	\$1,382



CRSP value propositions

- Incorporation of customer concerns into terms and conditions.
- Provides the same level of service for FES customers as today.
- Additional purchase power options to address extreme drought.
- Negotiated provisions enable consistency with marketing plan and the Energy Policy Act of 2005.
- Participation preserves and creates value for WAPA resources.



Rocky Mountain (RM) Region

Dave Neumayer
Vice President of Power Marketing



Driving factors for RM

- **Sustainable BA operations:** Ensure the WACM BAA and its customers have a sustainable future for reliability.
- **Ensure trading capability:** Improve or maintain market trading capability at the lowest cost to ensure continued ability to firm-up Loveland Area Projects (LAP) FES allocations and meet contractual obligations.
- **Evolve market environment:** Evolve to an efficient integrated market environment from less efficient bilateral trading practices for the benefit of the footprint, and for the associated WAPA projects.
- **Broader transmission planning:** Implement regional transmission planning to reduce current limitations and inefficiencies, assisting in ongoing resource changes.
- **Acceptable financial impact:** The net financial market benefit for RM is estimated to be between \$2M and \$3M per year benefit, but is highly dependent upon assumptions.



WACM BA transition to SPP-West BA

RM would cease WACM BA operations upon SPP-West BA taking over.
This would result in:

- BA service agreements would terminate
- BA membership in WPP Reserve Sharing Group would transition from RM to SPP
- WACM ancillary services would terminate:
 - Schedule 1 (Scheduling, System Control and Dispatch Service)
 - Schedule 2 (VAR Support Service)
 - Schedule 3 (Regulation and Frequency Response)
 - Schedules 4 and 9 (Energy Imbalance and Generator Imbalance)
 - RMR will no longer have a Market Participant role for BA customers
 - Schedules 5 and 6 (Reserves)
 - Schedule 7 (Real Power Losses)
- Certain backup functions between RM and Desert Southwest (DSW) would terminate
 - SPP BA has its own backup control center and WACM BA wouldn't exist as backup
 - RM dispatch functions that remain (i.e. switching desk) will continue to have DSW control center backup
 - RM will ensure that necessary WACM backup functions continue



Transmission Service Provider (TSP) transition to SPP

Loveland Area Projects Transmission (LAPT) service would transition from RM being the TSP to SPP being the TSP:

- All LAPT service would transition to SPP service.
- All LAPT transmission ancillary services would transition to SPP service.
- LAPT Network Integration Transmission Service and Point-to-Point contracts would terminate.
- RM would still have a rate process to develop a LAPT revenue requirement, but SPP would develop the LAP zone rate and recover our revenue requirement.



Financial impact to LAP

Project cost/revenue impact areas:

- Transmission rate changes for LAP zone (less service due to pancake elimination).
- LAP transmission service cost changes (pancake savings).
- Market benefits to LAP (~\$2.4M/year average hydro, ~\$3.4M/year low hydro).
- BA services impact – lost revenues, freed up generation, staff reduction, etc.).
- Software changes, both for LAP and BA.
- SPP administrative fee.
- RMR staff changes (not immediate, but eventually through attrition or reassignment/reallocation).

Net benefit roughly estimated to be between \$2M - \$3M / year.



LAP firm electric service contracts

Firm electric service:

- Other than for Mt. Elbert as noted below, no contract changes anticipated.

Mt. Elbert pumped storage contract provisions:

- Plan to propose changes to optimize benefit of Mt. Elbert in the market.
- Proposal would be to remove customer scheduling rights, and have LAP solely control Mt. Elbert scheduling to maximize benefit, and pass benefit through to customers.
- Ongoing discussion and coordination through Loveland Area Customer Association (LACA) meetings.



Upper Great Plains (UGP) Region

Steve Sanders
Strategic Advisor for UGP



UGP is situated differently

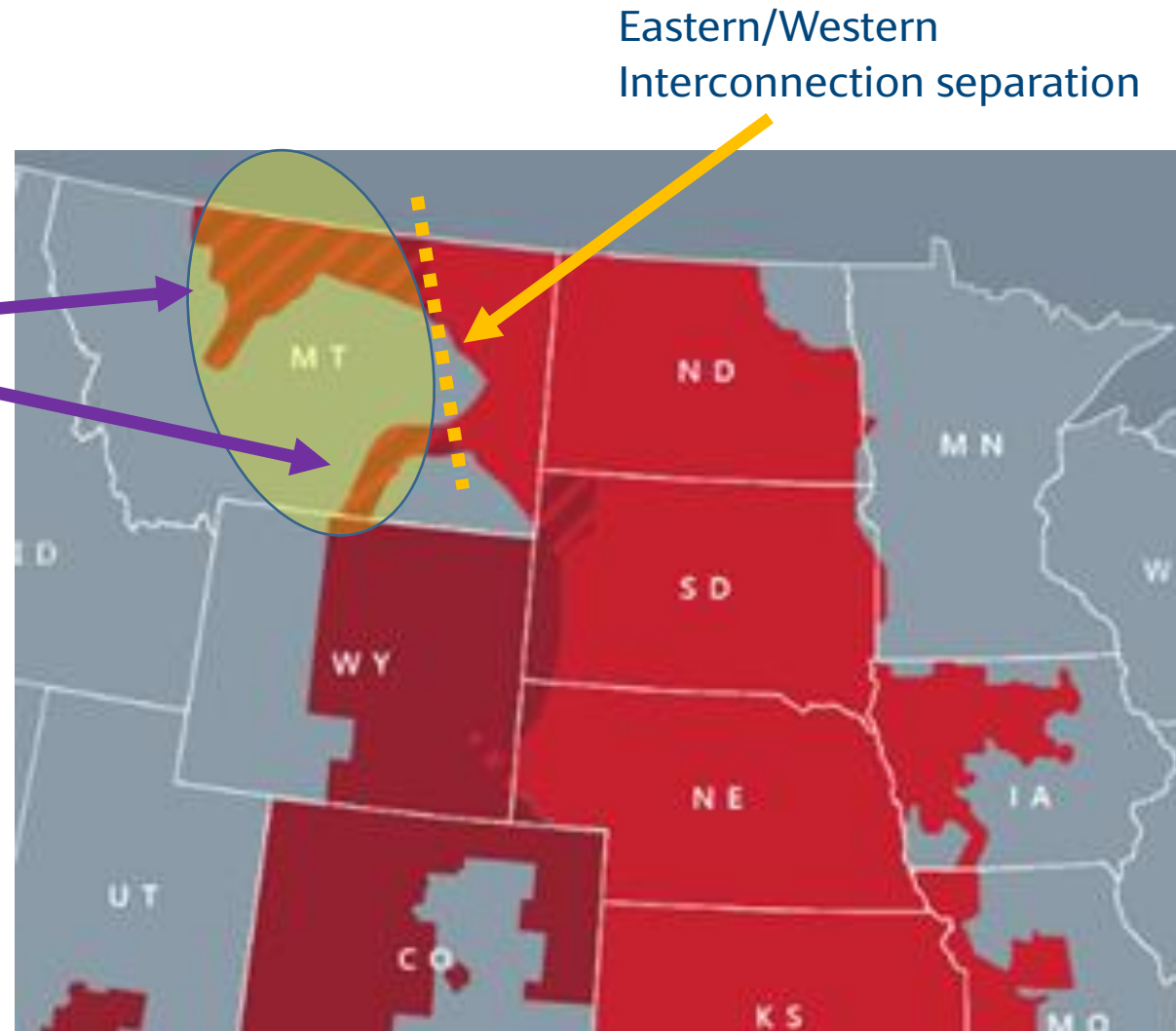
- UGP is already a Transmission Owner Member of the SPP RTO, with limited participation in the West. UGP completed a public process and an extensive [UGP Alternative Operations Study/Recommendation](#) to evaluate the impacts and risks for UGP and support its decision to join the SPP RTO in 2015.
- UGP has limited participation in the RTO in the Western Interconnection.
 - UGP's West generation and load are currently not in the SPP Integrated Marketplace (SPP IM) or in SPP's Balancing Authority Area (BAA).
- UGP's East and West transmission facilities are already under the SPP tariff (SPP Pricing Zone 19, "Upper Missouri Zone" (UMZ)).
- UGP's applicable East generation and load are already in the SPP IM.



Existing RTO footprint for UGP in Western Interconnection

UGP's existing transmission facilities located in Western Interconnection (two hashed areas noted) are already in the SPP RTO and SPP tariff.

Yellow shaded area is rough outline of UGP's current WAUW BAA in the Western Interconnection.



UGP's changes limited in RTO West

- UGP would place its relatively small amount of West WAUW BAA generation and load directly into the SPP IM (adding UGP's West generation at Fort Peck and Yellowtail).
 - No major market impacts; no major seams issues expected due to SPP IM expansion.
- UGP would cease WAUW BAA services and its WAUW BAA would be merged into the SPP BAA on the West. BAA Ancillary Services provided from SPP IM.
- UGP would withdraw from the SPP WEIS market.
- UGP would withdraw from WPP Reserve Sharing Group.
- No new market software, tools, additions, or additional staff support.
- No major workload changes.
 - Expected workload reductions in the WAUW BAA desk would provide opportunities for additional support to other UGP functional areas.



UGP strategic considerations

RTO-West addresses several key UGP strategic concerns and needs in the Western Interconnection:

- Risk mitigation
- Transmission/market optimization
 - Including UGP's East/West Miles City DC Tie.
- Improved reliability
 - Including UGP being part of a larger SPP West-side BAA.
- Optimized resource dispatch
 - Improved rate stability.
- Support core mission success for UGP
 - Better enabling Administration and customer clean energy goals.



UGP cost/benefit summary

- Analysis for UGP's decision to join the SPP RTO was completed in 2014.
- For RTO-West, market benefits for UGP (per the 2022 Brattle Study):
 - Estimated at \$124K/year for average hydro to \$316K/year for low hydro conditions.
 - For UGP, market savings are driven by projected lower-cost purchases.
- Many potential West impacts already included in UGP's analysis to join the SPP RTO in 2015. Other incremental impacts evaluated for RTO-West participation:
 - Transmission revenue impacts, RTO administrative cost impacts, human resource costs, termination of WAUW BAA services impacts, implementation and software/tools costs, capacity benefits, and Federal Service Exemption benefits conservatively netted to zero.
- Considering all the costs and benefits together, UGP estimates a net benefit of about \$100K-\$300K/year.
- Benefit/costs are not the primary driver for UGP.
 - Prevent negative impacts to existing SPP RTO membership. Increase reliability.



Key UGP risks of not expanding SPP RTO participation

Status quo vs. expanded participation	
Impacts to existing SPP RTO membership	If UGP's West facilities are not integrated into an expanded SPP Integrated Marketplace and exist in a separate day-ahead market, there are significant challenges to retaining the West facilities in the existing SPP RTO membership. There is significant risk UGP would be forced to bifurcate its West and East systems.
Future viability of UGP's WAUW BAA	UGP's WAUW BAA sustainability, reliability, capacity requirements, and physical/financial impacts are in question, and no ability to accommodate higher levels of renewables.
Uncertainty of UGP rate impacts	UGP rate impacts unknown with other market options.
Loss of capacity benefits	Estimated reduction in existing UGP WAUW BAA capacity requirements will not be realized if UGP doesn't participate in the expanded RTO.



UGP customer/neighbor outreach & feedback

- UGP's customers overwhelmingly supported its recommendation to join the SPP RTO in 2015.
- UGP has support from its customers to participate in RTO-West and has not received any negative feedback or concerns to date. UGP has discussed potential seams issues with its neighbors.
- UGP has actively communicated and sought feedback from its customers and other potentially impacted parties; including outreach to Native American Tribes, presentations to the Mid-West Electric Consumers Association, and regular updates to the current SPP transmission owners and customers in UGP's shared Upper Missouri Zone (UMZ).
- The directly impacted UGP customers in the West (e.g., Basin Electric) are also actively participating in RTO-West and are strongly supportive.



UGP summary

- UGP estimates a net benefit of RTO-West in the range of about \$100K-\$300K per year for the small portion of its system located in the West. Benefit and costs are not the primary driver for UGP.
- UGP's risks are significantly reduced compared to its status quo, and its strategic goals and needs are better accomplished and met within the expanded RTO in the Western Interconnection.
- UGP's primary concern and a key concern of our customers is to not impact UGP's current membership in the SPP RTO. RTO-West participation would eliminate that risk for UGP.

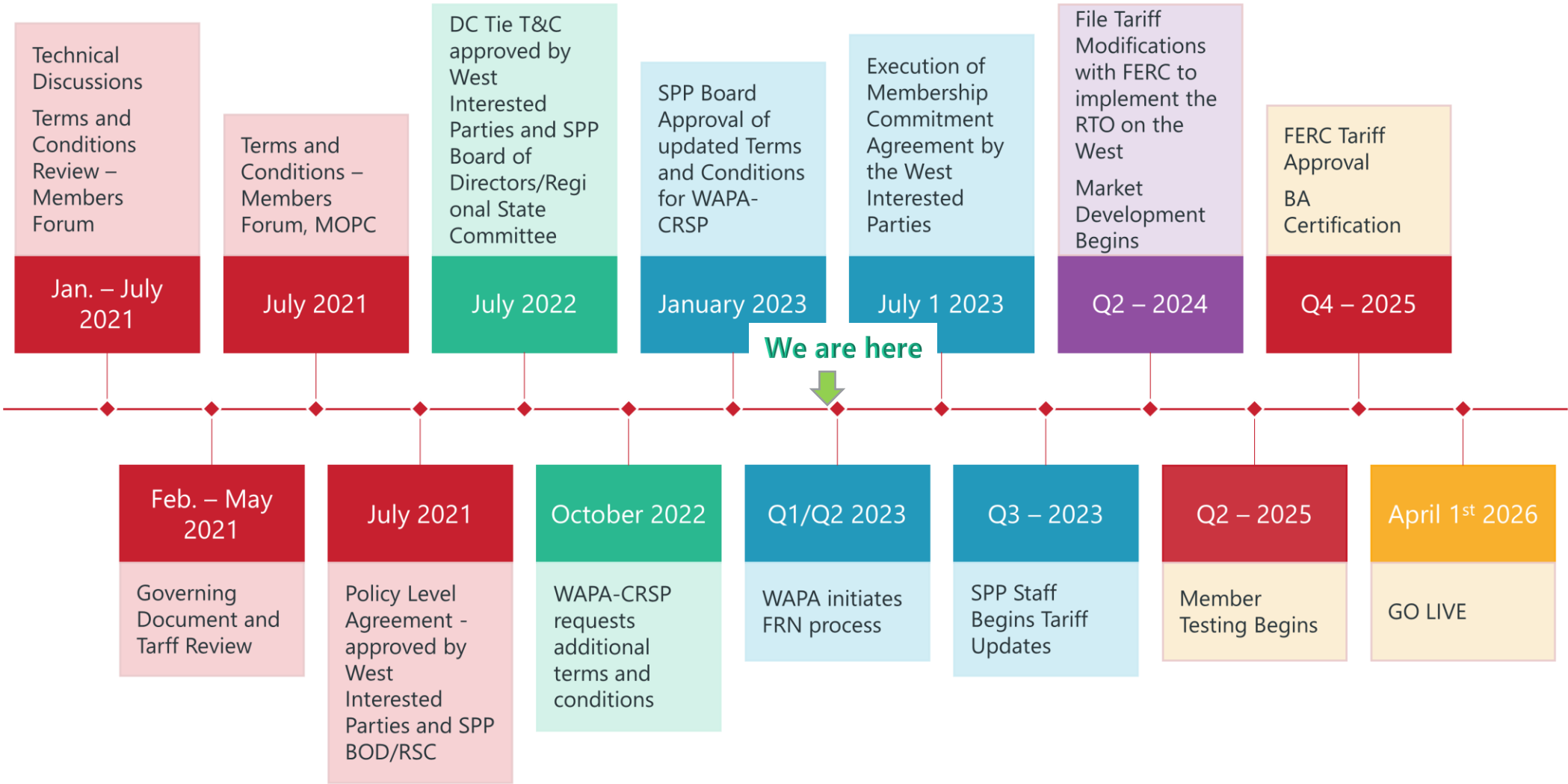


Conclusion and recommendation

- WAPA recommends CRSP and the RM region pursue final negotiations regarding membership in the SPP RTO, and UGP expand its participation in the SPP RTO.
- This recommendation addresses five primary strategic considerations:
 - Provide risk mitigation
 - Optimize transmission
 - Support reliability
 - Optimize resource dispatch
 - Core mission success



Preliminary RTO-West implementation timeline



Submitting formal comments

Comments must be submitted in writing and received by June 12, 2023 to ensure consideration in WAPA's decision process and should include the following information:

1. Name and general description of the entity submitting the comment.
2. Name, telephone number, and email address of the entity's primary contact.
3. Identification of any specific element of the recommendation the comment references.

Please send written comments to either of the following:

- Via email: SPP-Comments@wapa.gov
- Via regular mail:

Rebecca Johnson
Transmission and Power Markets Advisor
Western Area Power Administration
12155 W. Alameda Pkwy
Lakewood, CO 80228-8213



Questions and answers

- During this Q&A session, you have multiple options for asking questions:
 - Raise your hand in Teams. The facilitator will unmute you for your question.
 - Submit questions in the chat and the facilitator will read them.
 - Phone-only participant questions. When prompted, press *6 to unmute yourself.
- Include your name and the organization you represent with your question.
- If you have a question about a specific slide, please note the slide number.

Please note this session is to answer questions and *is not* for comments. Formal comments need to be submitted in writing to be considered.



Thank you for your time and we appreciate your participation in this process.

All materials associated with the SPP RTO FRN are publicly available at:

<https://www.wapa.gov/About/keytopics/Pages/southwest-power-pool-membership.aspx>



www.wapa.gov